

1999 OTC NO_x Budget Program Compliance Report

Prepared By:
United States Environmental Protection Agency
Office Of Air and Radiation
Clean Air Markets Division

March 27, 2000



BACKGROUND

The NO_x Budget Program was established by the states in the Ozone Transport Commission (OTC) to reduce NO_x emissions region-wide as a part of each state's effort to attain the national ambient air quality standard (NAAQS) for ground level ozone. The OTC comprises the states of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Delaware, the northern counties of Virginia, and the District of Columbia.

In September 1994, the OTC adopted a memorandum of understanding (MOU) to achieve regional emission reductions of NO_x. (Virginia did not sign the MOU.) Phase I included the installation of reasonably available control technology (RACT). In Phases II and III, states committed to developing and adopting regulations that would reduce region-wide NO_x emissions in 1999 and further reduce emissions in 2003.

For Phases II and III, the OTC states in collaboration with the U.S. EPA, as well as representatives from industry, utilities, and environmental groups, developed a model rule which identified key elements that should be consistent among the regulations in all participating states so that an integrated interstate emissions trading program could be created. The NO_x Budget Program involves an allowance trading system which harnesses free market forces to reduce pollution, similar to the U.S. EPA's Acid Rain Program. Under this program, budget sources were allocated allowances by their state government. Each allowance permits a source to emit one ton of NO_x during the control period (May through September) for which it is allocated or any later control period. Allowances may be bought, sold, or banked. Any person may acquire allowances and participate in the trading system. Each budget source must comply with the program by demonstrating at the end of each control period that actual emissions do not exceed the amount of allowances held for that period. However, regardless of the number of allowances a source holds, it cannot emit at levels that would violate other federal or state limits (e.g., NSPS, Title IV, NO_x RACT).

The NO_x Budget Program is separate and distinct from the Acid Rain "Phase I and II" NO_x reduction requirements. Sources affected by both programs are responsible for demonstrating compliance with the requirements of each program.

The 1999 OTC NO_x Budget Program Compliance Report summarizes compliance results for the first year of the program. Eight states (Connecticut, Delaware, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, and Rhode Island) completed their rules and participated in the program in 1999. Exhibit 1 shows a summary by state of the NO_x allowances allocated and emissions, and Appendix A lists the affected sources, emissions from each source, and allowance holdings. Generally, the program affects electric utilities and large industrial boilers.

NO_x Budget Sources Better 1999 Allowable Emissions Level by 20 Percent

There were 912 affected sources (i.e., combustion units) that underwent annual reconciliation for 1999 to determine whether sufficient allowances were held to cover emissions. These 912 sources are listed in Appendix A. These affected sources emitted at a level approximately 20 percent below 1999 allocations.

| Exhibit 1 1999 OTC NO_x Budget Program State Allocations And Emissions | | | |
|---|--------------------------------|-----------------------------------|-----------------------|
| State | 1990 Baseline Emissions | 1999 Allowances Allocated* | 1999 Emissions |
| Connecticut | 11,130 | 6,312 | 5,830 |
| Delaware | 13,510 | 6,142 | 6,160 |
| Massachusetts | 41,330 | 19,680 | 17,293 |
| New Hampshire | 14,589 | 6,788 | 3,463 |
| New Jersey | 46,963 | 21,292 | 15,390 |
| New York | 85,642 | 54,276 | 47,267 |
| Pennsylvania | 203,181 | 103,668 | 79,166 |
| Rhode Island | 1,099 | 580 | 274 |
| Total | 417,444 | 218,738 | 174,843 |

* Includes early reduction credit allowances of 24,635.

The total number of allowances deducted in 1999 was 174,845 which represents approximately 80 percent of all 1999 allowances issued. Almost all of the deducted allowances were for emissions. The only exception was one source that had 3 year 2000 penalty allowances deducted because it was one allowance short of covering its emissions for the 1999 ozone season. Exhibit 2 displays these allowance deductions, as well as the remaining bank of 1999 allowances.

At an individual source, the number of allowances surrendered was equal to the number of tons emitted at the unit, except where the unit shared a common stack with other units. For the purposes of surrendering allowances for emissions at a common stack, the facility was allowed to choose the proportion of allowances deducted from each unit sharing the stack, as long as enough allowances were surrendered to cover the total number of tons emitted. If no apportionment was made, EPA deducted allowances equally among the units sharing the stack to cover total emissions reported by the stack. Appendix A reflects the deductions for emissions at each unit after the common stack apportionment was made.

Progressive Flow Control Ratio for Year 2000

Progressive Flow Control (PFC) is intended to limit the variability in emissions associated with the banking of allowances. The PFC allows unlimited banking by sources, but discourages the “excessive” use of banked allowances by establishing a discount rate on the use of banked allowances over a certain

Exhibit 2
NO_x Allowance Reconciliation Summary

| | |
|---|----------------|
| Total Allowances Held in Accounts as of 12/31/99 (1999 Vintage)* | 218,733 |
| Compliance and Overdraft Accounts | 201,262 |
| Other Accounts*** | 17,471 |
| 1999 Allowances Deducted for Emissions | 174,842 |
| 2000 Penalty Allowances Deducted | 3 |
| Banked Allowances (1999 Vintage)** | 43,585 |
| Compliance and Overdraft Accounts | 26,114 |
| Other Accounts*** | 17,471 |

* December 31, 1999 represents the NO_x Allowance Transfer Deadline, the point in time at which the affected source compliance and overdraft accounts are frozen and after which no transfers of 1999 allowances will be recorded. The freeze on these accounts is removed when annual reconciliation is complete.

** Reflects the 306 year 1999 allowances that were surrendered by Rhode Island sources as required by state regulation.

*** Other accounts refers to general and state accounts within the NO_x Allowance Tracking System (NATS) that can be held by any source, individual or other organization.

level. Under this program, a 2-for-1 discount rate is applied to the use of allowances when the total number of banked allowances in the program exceeds 10 percent of the allowable NO_x emissions for all sources covered in an ozone season. Because the number of banked allowances exceeds 10% of the total regional NO_x budget for the year 2000, PFC will be in effect for the year 2000 reconciliation. The year 2000 PFC ratio of 0.50 was calculated in the following manner.

Year 2000 PFC ratio = (0.10 x total NO_x budget for the 2000 season) / total number of banked allowances (i.e., 1999).

Year 2000 PFC ratio = (.10 x 217,077) / 43,585 = 0.50

The ratio will be applied to the banked allowances held in both compliance and overdraft accounts at the time deductions are made for the year 2000 reconciliation. Current year (i.e., for year 2000 reconciliation, vintage year 2000 allowances) will be deducted first at a 1:1 ratio. Then, and only when needed, banked allowances will be deducted. For each account, the first 50 percent of the banked allowances will be available for deduction at a 1:1 ratio, and the remaining 50 percent will be available at a 2:1 ratio, (i.e., 2 banked allowances for each ton of emissions).